

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: PERKINS POND	Lake Area (ha):	63.58
Town: SUNAPEE	Maximum depth (m):	2.7
County: Sullivan	Mean depth (m):	1.4
River Basin: Connecticut	Volume (m ³):	877000
Latitude: 43°25' N	Relative depth:	0.3
Longitude: 72°07' W	Shore configuration:	1.38
Elevation (ft): 1082	Areal water load (m/yr):	1.81
Shore length (m): 3900	Flushing rate (yr ⁻¹):	1.30
Watershed area (ha): 284.9	P retention coeff.:	0.83
% watershed ponded: 0.0	Lake type:	natural w/dam

BIOLOGICAL:

	17 February 1987	22 July 1986
DOM. PHYTOPLANKTON (% TOTAL) #1	ASTERIONELLA 97%	DINOBRYON 65%
#2		ASTERIONELLA 30%
#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)		975.0
CHLOROPHYLL-A (µg/L)		4.95
DOM. ZOOPLANKTON (% TOTAL) #1	KERATELLA 76%	KERATELLA 49%
#2		NAUPLIUS LARVAE 25%
#3		
ROTIFERS/LITER	92	104
MICROCRUSTACEA/LITER	4	58
ZOOPLANKTON ABUNDANCE (#/L)	100	162
VASCULAR PLANT ABUNDANCE		Scattered
SECCHI DISK TRANSPARENCY (m)		2.8 Visible on bottom
BOTTOM DISSOLVED OXYGEN (mg/L)	4.1	9.1
BACTERIA (fecal col., #/100 ml) #1		< 10
#2		< 10
#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None
Hypolimnion volume (m³): None

CHEMICAL:Lake: PERKINS POND
Town: SUNAPEE

	17 February 1987		22 July 1986		
DEPTH (m)	1.0	2.0	1.0		2.0
pH (units)	6.3	6.3	6.9		6.9
A.N.C. (Alkalinity)	5.9	7.7	4.8		4.8
NITRATE & NITRITE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.68	0.78	0.34		0.53
TOTAL PHOSPHORUS	0.008	0.006	0.010		0.010
CONDUCTIVITY (μ mhos/cm)	46.6	52.2	46.2		45.8
APPARENT COLOR (cpu)	13	12	10		10
MAGNESIUM			0.53		
CALCIUM			3.0		
SODIUM			3.7		
POTASSIUM			0.60		
CHLORIDE	5	6	6		6
SULFATE	6	5			
TN : TP	85	130	34		53
CALCITE SATURATION INDEX			3.2		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1986

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	1	1	0	2	Oligo.

COMMENTS:

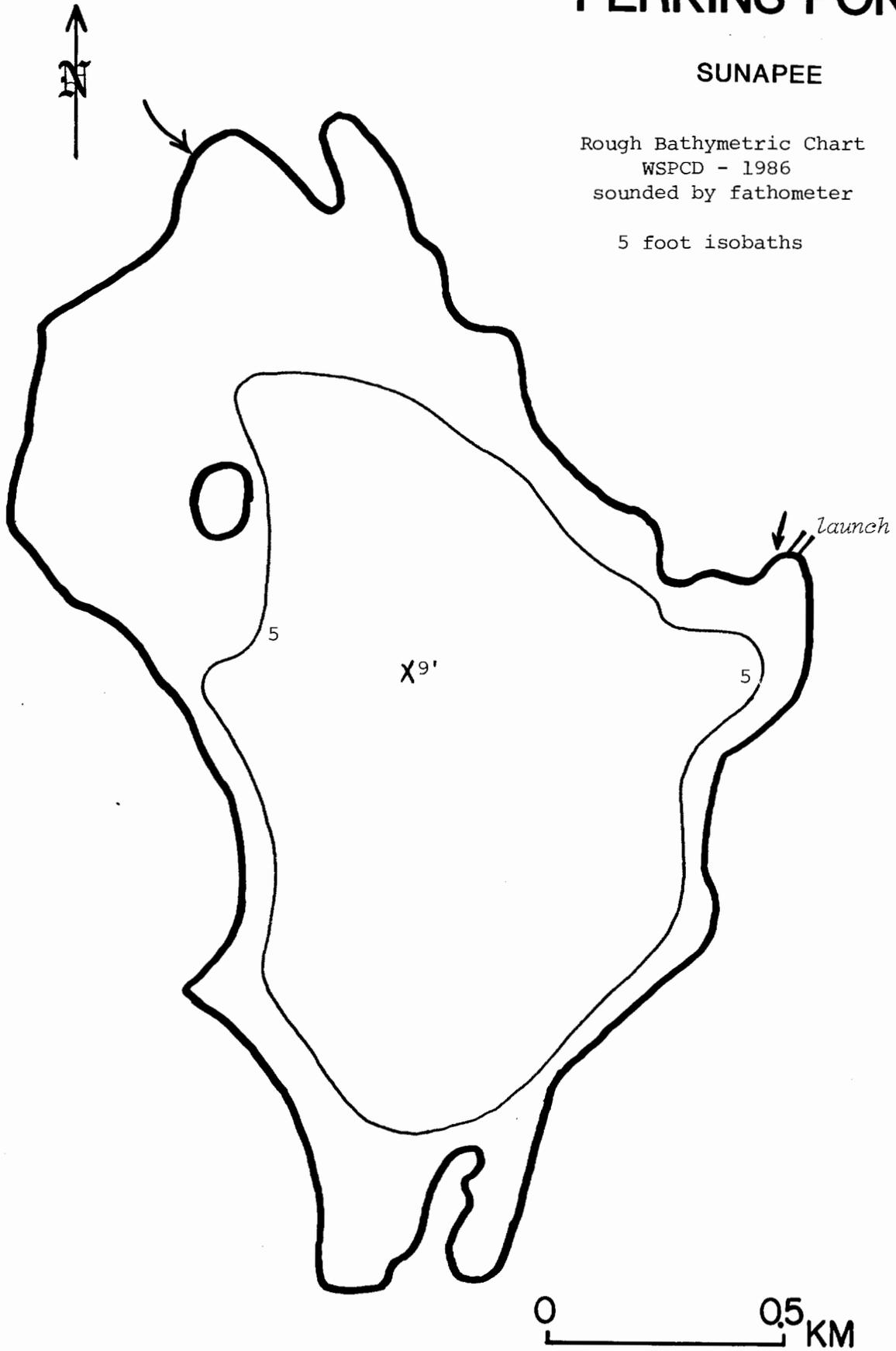
1. Whole-water phytoplankton was dominated by greens (40%) and diatoms (20%). Dominant genera were tiny green flagellates (30%), centric diatoms (15%), and Dinobryon (10%).
2. Lake bottom was clumpy, gelatinous muck.
3. This pond was previously surveyed in 1977 and was mesotrophic at that time. Plant growth was the major change. It was very abundant in 1977 with bladderwort throughout the lake. Plants were only scattered in 1986.

PERKINS POND

SUNAPEE

Rough Bathymetric Chart
WSPCD - 1986
sounded by fathometer

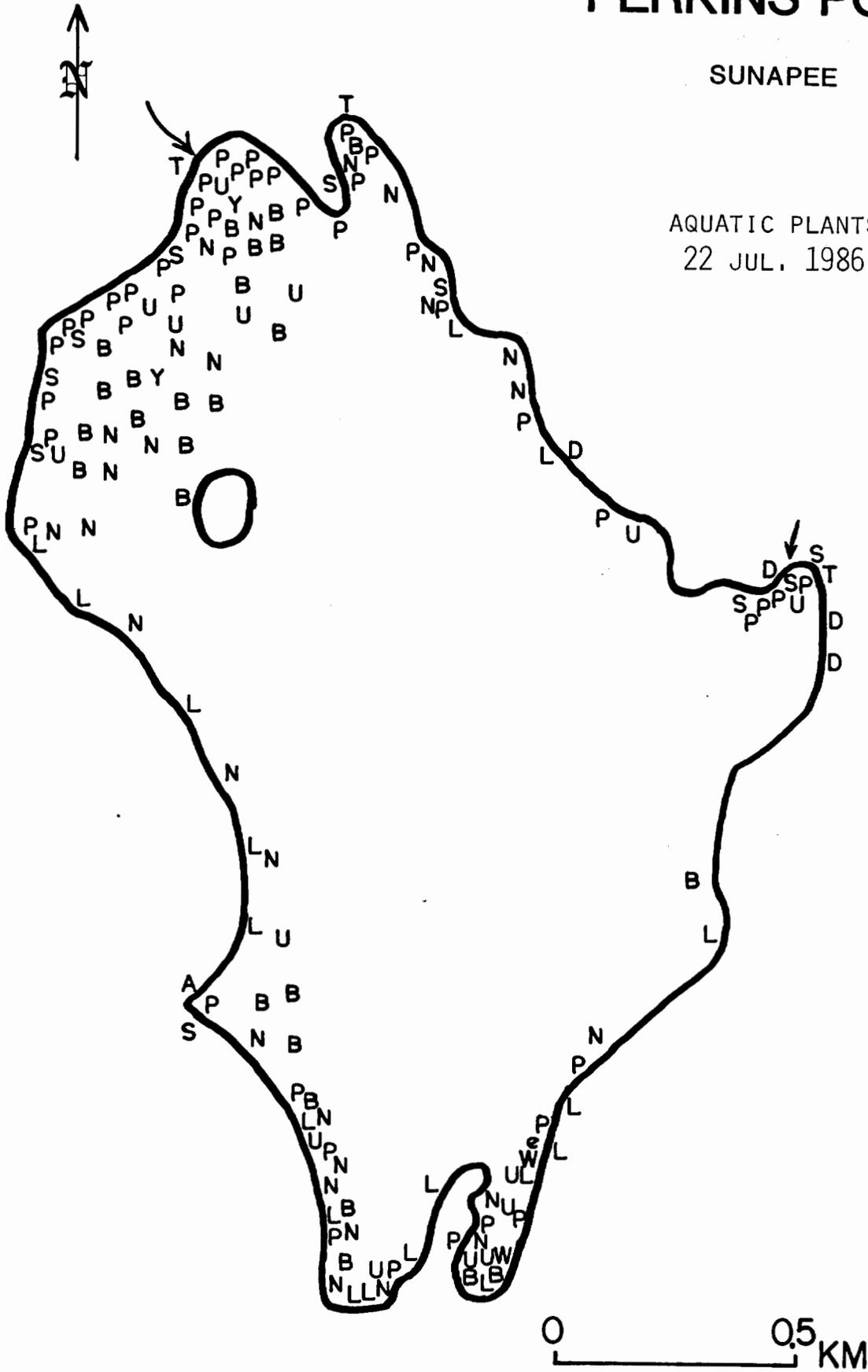
5 foot isobaths



PERKINS POND

SUNAPEE

AQUATIC PLANTS
22 JUL. 1986



AQUATIC PLANT SURVEY

LAKE: PERKINS POND

TOWN: SUNAPEE

DATE: 07/22/86

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
L	Lobelia dortmanna	Water lobelia	Scattered
P	Pontederia cordata	Pickereelweed	Scattered
E	Eriocaulon septangulare	Pipewort	Sparse
N	Nymphaea	White water lily	Scattered
U	Utricularia	Bladderwort	Common
B	Brasenia schreberi	Water shield	Scattered
S	Sparganium	Bur reed	Sparse
A	Sagittaria	Arrowhead	Sparse
Y	Nuphar	Yellow water lily	Sparse
T	Typha	Cattail	Sparse
D	Dulichium arundinaceum	Three-way sedge	Sparse
e	Eleocharis	Spike rush	Sparse
W	Potamogeton	Pondweed	Sparse

OVERALL ABUNDANCE: Scattered

GENERAL OBSERVATIONS:

1. Plants were very abundant at the north end (outlet end) of the pond, north of the island, but were scattered overall.
2. Pontederia, Nymphaea, and Brasenia were scattered around much of the shoreline, and abundant at the north end.
3. Some large clumps of Bladderwort were observed. It may be more abundant than indicated on the map if it was in deep water.